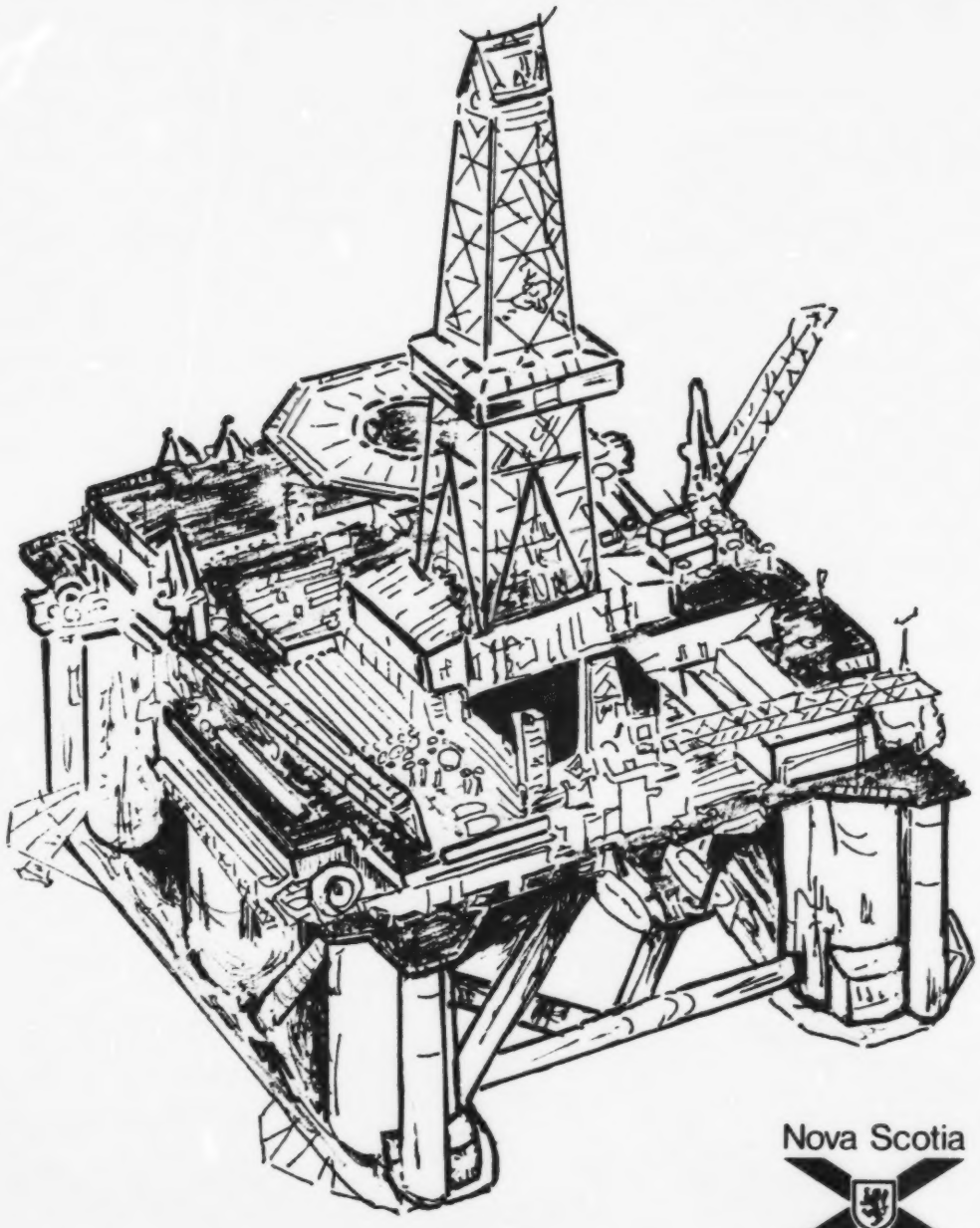
Nova Scotia Benefits from Offshore Oil and Gas



Nova Scotia

Department of Development

Hon. Roland J. Thornhill, Minister

NOVA SCOTIA

BENEFITS

FROM

OFFSHORE OIL AND GAS

February, 1983

INTRODUCTION

BY

The Honourable
ROLAND THORNHILL

In September, 1982, more than 5,000 businesspeople from all over the world met in Halifax at the second Canadian Offshore Resources Exposition. These men and women from the oil and gas industry came to Nova Scotia because of two momentous announcements. The first was that Mobil Oil announced that it would proceed to the development stage leading to recovery of gas from the Venture field off Sable Island; and the second was that the Province of Nova Scotia and the federal Government of Canada had reached an agreement which set out clearly the sharing of responsibilities and revenues from Nova Scotia's oil and gas.

As a result of the quickening pace of development which was evident at CORE, I made a series of personal visits to more than 30 communities throughout Nova Scotia, meeting with more than 3,000 people, from Yarmouth to North Sydney and from Sheet Harbour to Amherst.

Nova Scotia can benefit from this unprecedented economic activity but only if we make a deliberate and energetic effort to realize this once-in-a-lifetime opportunity. The province will not suddenly experience instant propersity, nor will fortunes be made overnight. However, Nova Scotia has the chance to re-establish itself as a self-sufficient economic unit within Confederation, contributing to the nation's wealth.

One of the responsibilities of government is to create the environment in which business can grow and prosper. The Government of Nova Scotia has therefore taken steps to ensure that the oil and gas companies spread the benefits of the offshore throughout Nova Scotia.

In order to provide information necessary to the business community in Nova Scotia, the Department of Development has instituted the Industrial Benefits Office. This office allows businesspeople to find out quickly exactly what they should be selling to whom in the offshore market.

This booklet, which will be revised and up-dated periodically, is not a complete guide to the offshore, nor does it replace the normal processes by which businesses discover new markets and fulfill their demands but it will build awareness of what Nova Scotians can do to benefit from offshore activity.

It is our hope that this booklet will remove the mystique which surrounds oil and gas activity. Businesspeople in the highly technical and specialized areas of the oil and gas market will need more detailed information than this booklet can provide. However, there are literally thousands of products and services which are common and unspecialized and which are necessary for developing Nova Scotia's offshore. It is to the people in these unspecialized product and service areas that this booklet is aimed.

Roland Thornhill

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QUESTIONS AND ANSWERS ABOUT OFFSHORE OIL AND GAS

The following are the most common questions asked by businesspeople when the Honourable Roland Thornhill toured the province in the fall of 1982.

Q: What is the timing of oil and gas development?

A: Mobil Oil has announced that it is proceeding to the development stage. Studies of environmental and social impact will be completed in 1983, as will the plans for the platforms to stand over the Venture field and pump gas ashore through a pipeline. Actual construction should commence in the following year (1984), and the first gas is expected ashore in 1987.

Q: How big is the commitment by the oil companies?

A: At present (early 1983) there are six drilling rigs in Nova Scotian waters. Three more are expected in 1983, and it seems reasonable to expect ten or more within five years (by 1987). The discovery of marketable quantities of gas by Mobil Oil has stimulated exploration by several other companies, including Shell, Husky and Petro-Canada. Each rig employs approximately 200 people, with more jobs ashore and in supply vessels. By itself, this activity generates a wide range of business opportunities.

Q. What is the commitment of the Nova Scotia government?

A. The Government is committed to maximizing the benefits to Nova Scotia and ensuring that these benefits are spread throughout the province. First priority is to be given to assisting Nova Scotia business to expand and undertake new investment projects wherever possible, and secondly, to encourage new industry to locate in the province to complement our industrial base.

Q: What will Nova Scotia do with its gas and oil royalties?

A: First of all, royalties don't start until the gas starts to flow -- in late 1987. More importantly, we have repeatedly stated that Nova Scotians should not pin their hopes on wealth coming to the province through royalties. We do not need a Heritage Fund which numbers its wealth in the millions of dollars if at the same time there are Nova Scotians looking for jobs. We believe that the royalities should be used to retire our deficit, and to improve legitimate government services such as hospitals, schools, roads and assistance to special groups such as seniors citizens.
Real economic benefit measured in sales, profits, jobs and overall prosperity comes from a vibrant <u>private</u> sector rather than through government spending, as countries such as Mexico have learned to their lasting cost and distress.

Q: Will the oil and gas opportunities be centered only in Halifax/Dartmouth?

A: No. There are three reasons why the benefits of off-shore related business must be spread throughout the province:

1) It's good business sense to make use of under-utilized productive capacity throughout the province.
2) Each major centre -- Halifax-Dartmouth, Sydney and the Strait of Canso -- has its strengths, but all are inter-dependent in that no one centre can do everything. Moreover, each community in Nova Scotia has a major contribution to make. The efforts of the municipal councils and industrial commissions can bring business to any part of the province.
3) The oil and gas companies are aware of the need to spread the benefits throughout the province, and the government of Nova Scotia will ensure that this happens.

Q: What will the oil and gas activity do for industrial development?

A: Nova Scotia is fortunate in that it has an industrial base and infrastructure which makes us able to cope with gas and oil development. Industrial land is available, and industrial commissions are ready to help develop that land.

Q: Won't all these in-coming firms want to locate in Halifax/Dartmouth?

A: No. Industrial commissions all over the province have an unprecedented opportunity to sell their natural advantages to attract new development. Some towns are already successful in attracting new companies. The province's industrial promotion officers promote the province as a whole, the companies decide where they want to be, and the local industrial commissions are the people who can ensure that their communities acquire good new corporate citizens.

Q: What's being done about the environment?

A: Before the oil and gas companies can go ahead with development there are extensive studies, complete with opportunities for public input. The technology for ensuring that there is no damage to the environment exists, and the provincial and federal departments concerned are and will be monitoring all development. Nova Scotians have the opportunity to make representation to environmental and socio-economic boards at public meetings where concerns and issues can be raised. These boards are composed of equal numbers of federal and provincial representatives.

Q: What will oil and gas prosperity do to the Nova Scotia way of life?

A: Undoubtedly there will be changes, and not all of them will please everyone. However, in my opinion, it is better to be facing the problems of progress and development than attempting to deal with the difficulties of stagnation, recession and lack of growth.

Q: What's being done to train Nova Scotians for employment in the offshore industries?

A: The province of Nova Scotia has completed an agreement with the federal government which provides job and skill training. Industry has made an important input by stating what the skills are which will be needed now and in the future. Already, the College of Cape Breton, the Nova Scotia Institute of Technology, the Nautical Institute and a number of private companies are providing specialized education and training, and the offshore industry itself is involved in training people to work on the new jobs which have come to the province. Skilled people should contact the personnel departments of the companies, and the Nova Scotia Department of Labour and Manpower.

Q: How can an individual businessperson take advantage of offshore opportunities?

A: First of all, know your own business. Know what you produce and what you could produce. Contact the Industrial Benefits Office, or your local office of the Nova Scotia Department of Development, and match your products with the needs of the oil and gas companies and their primary suppliers. Then go out and sell your product or service. Though the oil and gas companies have agreed to buy Nova Scotian wherever possible, you cannot expect them to contact you. That's not how business is done. You have to find your opportunities, track them down and make them real.

Q: Do the oil and gas companies have established buying patterns which will prevent Nova Scotians from doing business with them?

A: For some specialized items, there are limited numbers of suppliers, but most requirements have many sources. However, the companies are required to buy locally as a condition of their exploration agreements. We want Nova Scotians to be involved in products which will sell not only to our oil and gas patch, but also to the world markets.

Q: What if a company seems to be getting the cold shoulder from the oil companies and their suppliers?

A. Don't give up. Contact the I.B.O. office in Halifax or your local Development field office. Remember there are many Nova Scotia companies already selling strongly to the offshore market. Some of these made contact on their own. Some required the assistance of the I.B.O. The I.B.O. can help you by finding the right doors to knock on to get the kind of hearing you need in order to sell your products.

Q: Isn't the oil and gas market very specialized?

A: Some of the oil and gas market is highly specialized. However, oilmen all eat breakfast, wear boots, need beds and knives and forks and all those goods and services everyone needs. Very soon there will be a small floating city of people on the oil rigs off Nova Scotia --right now in 1983 there are nearly 1,000. This represents a market for which Nova Scotia business is already geared up. In addition, there are the needs of boats and ships which Nova Scotians have been supplying for generations. Moreover, there's nothing mysterious about an oil rig -- it's just a strangely-shaped ship. Nova Scotians have built special-use vessels, including oil rigs, and will do so again. We can learn the specialized skills and make the sophisticated products which will sell worldwide. There's no need to be afraid of specialized markets -- these are where some of the most profitable business is.

Q: What about our traditional natural resources?

A: Nova Scotia will always have its forests, its fisheries and its agriculture. These are the foundation of ou province, and they are renewable resources which will go on in the future. Oil and gas are here for a generation or more, but they are depletable. The government of Nova Scotia is acutely aware of this, and is taking steps to ensure that the new energy resource complements our renewable resources. We are making sure that our own commodities from apple juice to paper-products are in full use by the oil companies. What oil and gas can do for the province is to get our economy moving again, putting us in the forefront of the economy of Canada. Our traditional resources will still be strong long after the last gas has been pumped from the offshore, and we must ensure that strength is passed down to our descendents.

Q: How will the revenues from oil and gas be shared between the federal and provincial governments?

A: All the royalties will come to Nova Scotia until the province reaches 116% of the national average. Thereafter, Nova Scotia will contribute to Confederation as a "have" province.

THE INDUSTRIAL BENEFITS OFFICE

The Industrial Benefits Office (IBO) is the source of information about buying and selling in Nova Scotia's offshore.

The Industrial Benefits Office ensures that Nova Scotia companies benefit from oil and gas exploration and recovery, by informing Nova Scotians about business arising from offshore activity, and by communicating to the oil and gas related companies the extent and readiness of Nova Scotia firms.

THE INDUSTRIAL BENEFITS OFFICE operates:

1. to promote business between Nova Scotia companies and offshore oil and gas companies by purveying up-to-date information;

2. to negotiate agreements which ensure maximum Nova Scotian content in offshore development;

3. to inform Nova Scotia companies by providing status reports, lists of products, project details and information about who is who in the oil and gas industry;

4. to provide information on regulatory, planning and advisory bodies within government, and to facilitate access to them;

5. to monitor and evaluate resource-related business within Nova Scotia in order to maximize Nova Scotian content as negotiated in Canada Benefits Plans;

6. to provide the same kinds of service on other large projects such as developments in coal, onshore pipelines and tidal power.

Contacts may be made through the Regional Offices of the Nova Scotia Department of Development, **(see page 39)** or

R. M. Butler, Director
Industrial Benefits Office
Nova Scotia Department of Development
P. O. Box 519
5151 George Street
Halifax, Nova Scotia
B3J 2R7 424-7780

PURCHASING PATTERNS OF OFFSHORE COMPANIES

Each of the major companies (Mobil, Shell, Petro-Canada) has its own policies. However, there is a pattern to the way in which major companies do business in Nova Scotia.

1. Through drilling contractors.

Large contracts, such as the operation of drill-rigs or supply vessels, are let by the major companies to large specialized companies. For example, Shell contracts the services of Sedco, which operates the drilling rig, Sedco 709; Mobil contracts the Zapata Scotian and the Rowan Juneau, and so on. These companies in turn operate independently with respect to their manpower and supply needs.

Specialized services, such as catering, testing and well-logging are contracted by both the major companies and by their sub-contractors.

2. By tender or direct purchase.

Major purchases are tendered on a sealed-bid competitive basis by major companies. The Industrial Benefits Office examines the bidding list on items of $50,000 and above, and can recommend adding companies to that list. Once the major company has made its decision, the IBO ratifies that choice.

Major purchases are defined as items costing $50,000 and above, but also may include items of $15,000 and above if the commodities are generic or multiple in nature, and are thus suitable for re-ordering. In other words, a contract for an item such as small pumps, which will probably lead to re-orders, will be tendered even though the first order is much less than $50,000. "Sole sourcing" is not usual: quote-and-tender is the regular way of purchasing (granted adequate time for the process). Though such a contract will customarily lead to re-orders, there is no reason for a supplier to believe that he has all such business locked up for all time just because he has been successful in the first bidding process.

Major companies and their sub-contractors (the rig operators, the caterers, the supply vessels) routinely purchase a very wide range of products and services directly on the open market.

Such purchases are normally done through a purchasing officer, who customarily consults his own lists of suppliers, and/or checks price and availability with middle-men such as the ship chandlers, or with the supply companies themselves. For such smaller purchases, the Industrial Benefits Office will seldom be contacted. The sub-contractors or the major companies will purchase routinely as does any other company when they are in search of items which could range from typewriter ribbons and stationery to automobile rentals or airline tickets.

There is no one place in the oil industry where all purchasing takes place. Because there are several different levels of contracting and sub-contracting (the major oil company, the drilling company, the supply vessels, the caterers, etc.), it is important to focus selling efforts on the right individual.

Drilling operators (Rowan, Zapata, Bow Valley, SDS, etc.) usually have a purchaser in a local office who buys goods, but not services. The oil companies (Mobil, Shell, Petro-Canada) also contract engineering, logistics (maintenance and supplies coordinators) and environmental firms which identify needed services, and also the companies which can supply them. Marine-related goods and services are purchased both by the rig operators and the supply vessel companies, which maintain offices in Nova Scotia.

When calling any of these companies, the first concern is to identify the appropriate person to speak to, the second is to ensure that your company's offerings are listed in the purchasing officers' files. If the company uses qualifying questionnaires and/or shop surveys, those should be requested from the purchasing officer so that your company's potential is well-known. You should be certain that this information is kept up to date as your capabilities change or grow.

Obviously, it is advantageous to any company wishing to sell to the offshore-related market to be listed in publications such as the Nova Scotia Department of Development's Ocean Industry Directory, as well as keeping the Industrial Benefits Office up to date on new products and services.

The Industrial Benefits Office can be useful to prospective bidders by providing information on product type, timing, and other market information as to national or international sources of supply.

NOVA SCOTIA CAPABILITY

The Industrial Benefits Office maintains a file on the capability of Nova Scotia companies in a wide range of offshore-related products and services; however, it is in the last analysis the duty of every company to ensure that it is well known for its abilities. It is therefore advantageous for Nova Scotian companies to meet with the Industrial Benefits Office staff and explain their capabilities and plans.

The Industrial Benefits Office's file

1. details the Nova Scotian companies presently able to provide for offshore-related business,
2. responds to those companies with the interest in and capacity to expand into more specialized offshore products and services,
3. clarifies the "product gap" so that Nova Scotian companies can move into new products and services either on their own or through joint ventures, and
4. helps identify the foreign companies which Nova Scotia needs to attract to the province so that they can locate and produce here.

Since the offshore-related market is in a state of expansion, and Nova Scotia companies are often looking for new profitable commodities and product lines, information about the needs of the major oil and gas companies and their sub-contractors is critical. The Industrial Benefits Office is a source of such information, and should be contacted by Nova Scotia companies which are considering expansions or diversifications, particularly when their capabilities are enlarged.

Although Nova Scotia has considerable industrial capability, not all the needs of the major oil and gas companies and their sub-contractors can be filled. These "product gaps" and the resulting need of the offshore companies to go outside the province to fill their needs, are an important concern of the Industrial Benefits Office when negotiating Nova Scotia benefits packages with the oil and gas companies. Filling these "product gaps" requires that Nova Scotia companies first know what the gaps are by contacting the Industrial Benefits Office, and then once they feel they can fill those gaps, ensure that the Industrial Benefits Office and the offshore companies are aware of the new capability.

WHO'S WHO IN NOVA SCOTIA'S OFFSHORE

The following lists of companies are as up to date as possible in a quickly-changing scene. The lists are kept current in the Industrial Benefits Office.

Each major oil company (Mobil, Petro-Canada, Shell) contracts rigs, supply vessels, caterers and other specialized services, most of which in turn purchase goods and services.

For example, Shell contracts Okanagan Helicopters to service its rigs by air. The service, supply and maintenance of the helicopters is the responsibility of Okanagen Helicopters; thus if you were an aircraft parts supplier, you would deal directly with Okanagan Helicopters. So also, a person selling food products should contact the catering companies, and so on.

Some products and services are needed by more than one specialized contractor -- for example, the rigs, the supply vessels and the diving services all use rope; every company requires office supplies; most require ground transportation from time to time, and so on.

Enquiries should therefore be made to contractors directly, as well as to the major companies.

PETROLEUM COMPANIES ACTIVE IN NOVA SCOTIA'S OFFSHORE

MOBIL OIL CANADA, LTD.
Suite 1004, Bank of Commerce Building
1809 Barrington Street
Halifax, Nova Scotia B3J 3K8

Telephone: 423-9101

Mr. Stuart Aitken, Area Manager
Mr. Merv Graham, Drilling Superintendent
Mr. Kevin Barker, Logistics Coordinator
Mr. Don Payne, Purchasing Representative

PETRO-CANADA
6th Floor, Bank of Montreal Building
5151 George Street
Halifax, Nova Scotia B3J 1M5

Telephone: 425-8640

Mr. Rod McGrath, General Manager
Mr. Mike Everett, Operations Superintendent
Mr. Walter Jellow, Logistics Supervisor
Mr. Jim Huddy, Purchasing

SHELL CANADA RESOURCES LIMITED
Queen Square, 18th Floor
45 Alderney Drive
Dartmouth, Nova Scotia B2Y 2N6

Telephone: 463-8461

Mr. D. W. Dane, Drilling Superintendent
Mr. Roy Fodchuk, Coordinator, Logistics
Mr. John Cash, Senior Buyer
Mr. Laurie Taylor, Canada Benefits Officer

HUSKY OIL LIMITED
Calgary (403) 267-6111

- Offices opening in Nova Scotia, Spring '83

RIGS OPERATING IN NOVA SCOTIA WATERS

CLIENT

Bow Drill I (Semi-submersible) — Petro-Canada

BOW VALLEY OFFSHORE EXPLORATION INC.
Suite 412, Barrington Tower, Scotia Square
Halifax, Nova Scotia B3J 2V9

Telephone: 421-3133

Mr. Gary Foley, Drilling Superintendent
Mr. Wayne Kelley, Materials Supervisor

John Shaw (Semi-submersible) — Mobil

SONAT OFFSHORE CANADA LTD.
Suite 212, 11 Morris Drive
Burnside Industrial Park
Dartmouth, Nova Scotia B3B 1K2

Telephone: 469-1980

Mr. Chet Skowronski, Operations Manager
Mr. Karl Hawley, Materials Supervisor

Rowan Juneau (Jack-up) — Mobil

ROWAN COMPANIES, INC.
Suite 402, 277 Pleasant Street
Dartmouth, Nova Scotia B2Y 4B7

Telephone: 469-1973

Mr. George M.McGlocklin, Rig Manager
Mr. Robert M. Hattie, Materials Manager

CLIENT

SEDCO 709 (Semi-submersible) — Shell

SOUTH EASTERN COMMONWEALTH DRILLING LIMITED
Suite 308, Young Tower
6080 Young Street
Halifax, Nova Scotia B3K 5L2

Telephone: 453-0620

Mr. Vernon Greif, Operations Manager
Mr. Jim Johnson, Materials Supervisor

SDS Vinland (Semi-submersible) — Petro-Canada

SDS DRILLING
6th Floor, Bank of Montreal Tower
Halifax, Nova Scotia B3J 1M5

Telephone: 425-8630

Mr. R. Bradshaw, Drilling Superintendent
Mr. Joe Jellow, Materials Supervisor

Zapata Scotian (Jack-up) — Mobil

ZAPATA OFFSHORE CANADA LIMITED
Suite 914, 1809 Barrington Street
Halifax, Nova Scotia B3J 3K8

Telephone: 425-8780

Mr. Raymond Shows, Rig Manager
Mr. Kurt Zander, Materials Supervisor

SUPPLY AND SERVICE VESSELS UNDER CONTRACT IN NOVA SCOTIA

FOR MOBIL'S RIGS

OFFSHORE DEVELOPMENT CANADA INC.
1525 Birmingham Street
P. O. Box 3550 South
Halifax, Nova Scotia B3J 3J3

Telephone: 429-5680

- Balder Hudson
- Balder Baffin

SEAFORTH FEDNAV
5251 Duke Street, Suite 410
Duke Tower, Scotia Square
Halifax, Nova Scotia B3J 1P3

Telephone: 429-8970

- Seaforth Jarl
- Seaforth Highliner

SONAT OFFSHORE CANADA*
Suite 212, 11 Morris Drive
Burnside Industrial Park
Dartmouth, Nova Scotia B3B 1K2

Telephone: 469-1980

- Freedom Service
- Wimpey Seahunter

* (Permanent contracts to be arranged by Mobil, 1983)

FOR PETRO-CANADA'S RIGS

SEAFORTH FEDNAV
5251 Duke Street, Suite 410
Duke Tower, Scotia Square
Halifax, Nova Scotia B3J 1P3

Telephone: 429-8970

- Seaforth Commander

CROSBIE OFFSHORE SERVICES
11 Morris Drive, Suite 206
Dartmouth, Nova Scotia B3B 1M2

Telephone: 465-2403

- OSA Ostend

PARLEY AUGUSTSSON
1525 Birmingham Street
P. O. Box 3550 South
Halifax, Nova Scotia B3J 3J3

Telephone: 429-5680

- Balder Cabot

K. D. MARINE ATLANTIC LIMITED
16 Canal Street
P. O. Box 605
Dartmouth, Nova Scotia B2Y 3Y9

Telephone: 463-8527

- Wimpey Seahunter

FOR SHELL'S RIGS

BALDER OFFSHORE CANADA INC.
1525 Birmingham Street
P. O. Box 3550 South
Halifax, Nova Scotia B3J 3J3

Telephone: 429-5680

- Borkum
- Hussum

CATERING FIRMS UNDER CONTRACT IN NOVA SCOTIA

ARVAK OFFSHORE SERVICES
5121 Sackville Street
Halifax, Nova Scotia B3J 1K1

- Zapata Scotian
- John Shaw

Telephone: 463-2408

MAPLE LEAF CATERING LIMITED
P. O. Box 877, Station M
Halifax, Nova Scotia B3J 2W1

- SDS Vinland

Telephone: 429-0856

SOUTH EASTERN COMMONWEALTH DRILLING LIMITED
Suite 308, Young Tower
6080 Young Street
Halifax, Nova Scotia B3K 5L2

- Sedco 709

Telephone: 453-0620

TAP CATERING INC.
Suite 812, Cogswell Tower, Scotia Square
2000 Barrington Street
Halifax, Nova Scotia B3J 3K1

- Bow Drill I

Telephone: 422-8228

UNIVERSAL SERVICES INC. (International)
10 Wentworth Street, Suite 4
Dartmouth, Nova Scotia B2Y 2S5

- Rowan Juneau

Telephone: 469-9874

MAJOR CONTRACTORS TO OIL COMPANIES

The following lists, courtesy of the three active oil companies, give the names of major contractors as of February, 1983.

CONTRACTORS - MOBIL

ROWAN JUNEAU, ZAPATA SCOTIAN and JOHN SHAW

ACC DIAMOND PRODUCTS P. O. Box 1739 6632 - 44 Street Leduc, Alberta T9E 2Z1 (403) 986-9600	Coring
BALDER OFFSHORE CANADA INC. 1525 Birmingham Street P. O. Box 3550 South Halifax, Nova Scotia B3J 3J3 429-5680	Supply Vessel
DOWELL OF CANADA P. O. Box 2155 East Dartmouth, Nova Scotia B2W 3Y2 434-5428	Cementing & Products
DRESSER MAGCOBAR CANADA INC. 260 Wyse Road Dartmouth, Nova Scotia B3A 1N3 469-8920	(1) Drilling Fluids Engineering & Products (2) Mud logging
EASTMAN WHIPSTOCK CANADA 14 Rigolet Court St. John's, Newfoundland A1A 3S2 (709) 726-3010 Dartmouth Answering Service 466-5328	Directional Services

HALLIBURTON SERVICES LTD. 30 Simmons Drive Dartmouth, Nova Scotia B3B 1R3 469-9755	Cementing & Products
JOHNSON TESTERS 4 Beclin Industrial Park St. John's, Newfoundland (709) 368-8395	Downhole production testing
K. D. MARINE (ATLANTIC) LTD. P. O. Box 605 16 Canal Street Dartmouth, Nova Scotia B2Y 3Y9 463-8527	Diving
LAVALIN SERVICES INC. Suite 1020, Cogswell Tower Halifax, Nova Scotia B3J 3K1 423-1284	Diving
OKANAGAN HELICOPTERS LTD. P. O. Box 483 Bedford, Nova Scotia B4A 2Y2 861-3747	Helicopters
OTIS ENGINEERING 110 Wright Avenue Burnside Industrial Park Dartmouth, Nova Scotia B3B 1R6 469-5500	Surface production testing
ROWAN COMPANIES INC. Suite 402, 277 Pleasant Street Dartmouth, Nova Scotia B2Y 4B7 469-1973	Rig operator

SCHLUMBERGER OF CANADA 42 Fielding Avenue Dartmouth, Nova Scotia B3B 1E4 463-6580	Electric logging
SEAFORTH FEDNAV (SEABASE) 5251 Duke Street, Suite 410 Duke Tower, Scotia Square Halifax, Nova Scotia B3J 1P3 429-8970	Supply Vessel
SONAT OFFSHORE CANADA LTD. Suite 212, 11 Morris Drive Burnside Industrial Park Dartmouth, Nova Scotia B3B 1K2 469-1980	Rig operator
SWACO 11 Morris Drive Dartmouth, Nova Scotia B3B 1K2 466-5520	Mud solids control
ZAPATA OFFSHORE CANADA LIMITED Suite 914, 1809 Barrington Street Halifax, Nova Scotia B3J 3K8 425-8780	Rig operator

CONTRACTORS - PETRO-CANADA

SDS VINLAND and BOW DRILL I

Aeroflight Holdings Ltd. Bally Rou Place 280 Torbay Road P. O. Box 9471, Station B St. John's, Newfoundland A1A 2Y4 753-1217	Hangar Space (Halifax International Airport)
Analysts of Canada, The P. O. Box 850 Mount Pearl, Newfoundland A1N 3C8 364-2312	Logging (Mud)
Artic Exploration Services Ltd. 92 Ochterloney Street Dartmouth, Nova Scotia B2Y 1C5 463-0176	Communications
Balder Offshore Fleet, The (c/o I. H. Mathers & Sons Ltd.) 1525 Birmingham Street P. O. Box 3550 South Halifax, Nova Scotia B3J 3J3 429-5680	Supply Vessel
Crosbie Offshore Services Ltd. 11 Morris Drive, Suite 206 Dartmouth, Nova Scotia B3B 1M2 465-2403	Supply Vessel
D'Eon Miller and Associates Ltd. 2683 Oxford Street Halifax, Nova Scotia B3L 2T9 422-4006	Geological Wellsite Services
Dowell of Canada P. O. Box 2155, East Postal Station Burnside Industrial Park Dartmouth, Nova Scotia B2W 3Y2 434-5426	Cementing Services

Dresser Magcobar 260 Wyse Road Dartmouth, Nova Scotia B3A 1W3 469-8920	Mud Services
Eastern Offshore Services P. O. Box 100 Mulgrave, Nova Scotia B0E 2G0 747-2044	Stevedoring Services
Geonautics Ltd. P. O. Box 851 Dartmouth, Nova Scotia B2Y 3Z4 463-4884	Geotechnical
Halliburton Services 30 Simmons Drive Dartmouth, Nova Scotia B3B 1R3 469-9755	Testing Services
H. M. B. Hydrospace Nord Building Vanguard Court P. O. Box 13187 St. John's, Newfoundland A1B 4A4 726-4300	Diving Services
International Drilling Fluids 45 Alderney Drive Queen's Square, Suite 612 Dartmouth, Nova Scotia B2Y 2N6 469-8213	Bulk Fluids (mud)
K. D. Marine Atlantic Ltd. 16 Canal Street P. O. Box 605 Dartmouth, Nova Scotia B2Y 3Y9 463-8527	Supply Vessel
McElhanney Offshore Surveys Ltd. Suite 1-101 Thornhill Drive Burnside Industrial Park Dartmouth, Nova Scotia B3B 1S2 463-0041	Positioning Services

Nordco Ltd. P. O. Box 8833 St. John's, Newfoundland A1B 3T2 364-1200	Weather & Iceberg Surveillance
Nowsco Well Service Ltd. 45 Alderney Drive Queen's Square, 9th Floor Dartmouth, Nova Scotia B2Y 2N6	Cementing Services
Otis Engineering 110 Wright Avenue Burnside Industrial Park Dartmouth, Nova Scotia B3B 1R6 469-5500	Production Testing
Schlumberger of Canada Ltd. 52 Fielding Avenue Dartmouth, Nova Scotia B3B 1E4 463-6580	Logging (Electric)
Seaforth Fednav Inc. 5251 Duke Street Halifax, Nova Scotia B3J 1P3 429-8970	Supply Vessel
Sealand Hellicopters Ltd. P. O. Box 190 Enfield, Nova Scotia B0N 1N0 861-4113	Helicopters
Sperry-Sun of Canada Ltd. 6 Lyons Avenue Halifax, Nova Scotia B3P 1H5 434-9371 479-1632	Directional Services
Survival Systems Ltd. 34 Queen Street Dartmouth, Nova Scotia B2Y 1E7 463-0657 466-7770	Training Courses

CONTRACTORS - SHELL

Balder Offshore Canada Inc. c/o I. H. Mathers 1525 Birmingham Street Halifax, Nova Scotia B3J 2J6 429-5680	Boat Operators
Baroid of Canada Ltd. P. O. Box 5039 St. John's, Newfoundland A1C 5V3 (709) 753-4600	Logging Equipment (Mud)
Christensen Diamond Products (Canada) Ltd. 67 Fireside Drive Dartmouth, Nova Scotia B2Y 1Y7 434-5565	Downhole Drilling Tools
Dominion Diving Ltd. 145 Main Street Dartmouth, Nova Scotia B2X 1R6 434-5120	Diving Equipment
Drill-Rite Industries 43A Borden Avenue Dartmouth, Nova Scotia B3B 1C7 463-8237	Downhole Drilling Tools
Halliburton Services Ltd. 30 Simmonds Drive Dartmouth, Nova Scotia B3B 1R3 469-9755	Downhole Drilling Tools
Homac Exploration Services Ltd. 22 Weddell Avenue Dartmouth, Nova Scotia B3B 1K3 463-0974	Sample Gathering
International Drilling Fluids 45 Alderney Drive Queen Square Dartmouth, Nova Scotia B2Y 2N6 469-8213	Drilling Fluids

MacLaren Plansearch Suite 1020, Cogswell Tower Halifax, Nova Scotia B3J 3K1 469-0932	Forecasting (weather) and Physical Environmental Data
Marine Equipment Ltd. Barrington Commercial Centre 3695 Barrington Street Halifax, Nova Scotia B3K 2Y3 429-3240	Survival Suit
Nowsco Well Services Ltd. 45 Alderney Drive Queen Square, 9th Floor Dartmouth, Nova Scotia B2Y 2N6 463-8136	Cement
Okanagan Helicopters Box 180 Elmsdale, Nova Scotia B0N 1M0 861-4332 / 3747	Helicopter Transportation
Otis Engineering Co., Ltd. 100 Wright Avenue Dartmouth, Nova Scotia B3B 1L2 469-5500	Production Testing Equipment
Schlumberger of Canada Ltd. 42 Fielding Avenue Dartmouth, Nova Scotia B3B 1E3 463-6580	Logging (Wire Line)
Scotian Crewing & Supply Services 1525 Birmingham Street P. O. Box 3550 Halifax, Nova Scotia B3J 3J3 429-5680	Radio Operators
Security Division - Dresser Canada Inc. 11 Morris Drive, Suite 118 Burnside Industrial Park Dartmouth, Nova Scotia B3B 1K7 466-5520	Drilling Bits

SEDCO 6080 Young Street Young Towers, Suite 308 Halifax, Nova Scotia B3K 5L2 453-0620	Drill Rig Operator
Smith Tool - Div. of Smith Ind. Canada Ltd. 523 Windmill Road Dartmouth, Nova Scotia B3B 1B2 434-4954	Drilling Bits & Tools
Weatherford Oil Tool Co. Ltd. 14435 - 116 Avenue Edmonton, Alberta T5M 3E8 (403) 455-2176	Drilling Equipment
Western Rock Bit Co. Ltd. 45 Wright Avenue Dartmouth, Nova Scotia B3B 1H1 469-2668	Drilling Bits

PRODUCTS & SERVICES REQUIRED FOR OIL & GAS WELL DRILLING

Because of the relative newness of offshore activity in and around Nova Scotia, not all the present and future needs of the major companies and their sub-contractors have been explicitly stated in detail.

The following list, prepared by the Nova Scotia Department of Development, gives preliminary information on offshore-related needs at the exploration phase. Further lists will be available soon on the development phase. The lists are notated to show whether the product or service is needed by the oil companies (O), the drilling companies (D), the supply companies (S), or all three (A).

Consulting Services

Business & Professional A
Economic O
Engineering O
Environmental O
Geophysical O
Geotechical O
Management A
Marine Surveys O
Meteorology O

Contract Services

Carpentry A
Catering D
Cementing O
Chemical Analyses O
Cleaning A
Communications A
Computer A
Core Analyses O
Coring O
Diving A
Drafting O D
Dredging O
Electrical A
Electronic A
Equipment Rentals A
Expediting A

Contract Services (Continued)

Helicopter O D
Instrumentation A
Insurances A
Locksmiths A
Metal Fabrication A
Mud Logging O
Navigation D S
Non Destructive Testing O D
Personnel Search A
Photography A
Precision Machining A
Printing A
Production Testing O
Standby Vessel O
Stress Relieving A
Supply Vessel O
Surveying O S
Tubular Inspection O D
Welding A

Equipment

Air Compressors D S
Bearings and Seals A
BOP's and Well Heads O
Casing & Connectors Various Sizes O
Centralizers & Turbolizers O
Centrifuges D
Chains, Cables & Wire Rope A
Communications Equipment O A
Connectors (Hydraulic) D S
Connectors (Electrical) D S
Coolers D
Cranes A
Downhole Fishing Tools O D
Drill Bits & Reamers O
Drill Collars O D
Drill Pipe O D
Drilling Fluids & Chemicals O S
Electrical Equipment D S
Electrical Generators D S
Electric Motors D S

Equipment (Continued)

Electric Panels D S
Filters D S
Fire Equipment D S
Flotation Equipment O D S
Heat Exchangers O D
Hole Openers O
Hydraulic Equipment D S
Industrial Equipment & Controls D S
Industrial Gases D S
Instrumentation & Measuring Devices A
Lab Equipment O S
Liner Equipment O
Machine Tools A
Mooring Systems O D
Navigational Equipment D S
Packing & Mechanical Seals D S
Pipe Dope A
Pipe Fittings A
Pollution Control Equipment O
Pressure Vessels S
Production Test Equipment O
Pumps & Strainers S
Safety & Survival Clothing, Equipment A
Sample Bags O S
Slings D S
Specialized Clothing & Uniforms A
Stabilizers O
Storage Tanks D S
Stud Bolts & Fasterners A
Telecopiers A
Thrusters & Positioning Equipment D S
Valves & Fittings A
Weigh Scales A
Welding Equipment D S
Well Head Equipment O

General Suppliers

Accommodations A
Air Conditioning & Refrigeration D S
Audio Visual Equipment A
Batteries D S

General Supplies (Continued)

Buoys & Floats A
Business Forms & Stationery A
Cable A
Cameras A
Chemicals A
Containers A
Decorating A
Drafting Supplies O D
Electrical Supplies O D
Ethylene Glycol D S
Fuel A
Furniture A
Hardware A
Heating Equipment & Supplies A
Hoses D S
Lubricants A
Lumber & Misc. Building Supplies A
Material Handling Equipment A
Medical Supplies A
Office Machines A
Office Space A
Paint A
Potable Water A
Recorders & Tapes A
Rope D S
Sanitation Supplies A
Shackles D S
Small Tools D S
Staging A
Steel & Metal Supplies A
Storage Space A
Tires A
Warehouse Racking A
Warehousing (Purchase or Lease) A

Equipment Rental

Cementing O
Diving Equipment O
Drill Stem Test Tools O
Electric Logging Tools O
Electric Logging Wireline Units O
Jars, Core Barrels, Drill Records O

Equipment Rental (Continued)

Mud Logging Units O
Production Test Equipment O
Subsea Test Trees O
Subsea Wellhead Drilling & Fishing Tools O
Surveying Equipment O

Transportation

Air Cargo A
Barges A
Container Line A
Courier Services A
Crew Boats O D
Diving Vessels D S
Dredges O
Geophysical Vessels O
Geotechnical Vessels O
Rail A
Standby Vessels O
Supply Vessels O
Towing Services A
Travel Services A
Truck and Auto Rentals A
Trucking (Moving & Storage) A

PRODUCTS PURCHASED BY OIL COMPANIES

The following lists, courtesy of the three active oil companies, give products and product groups currently purchased by these companies as of February, 1983.

PRODUCTS - MOBIL

Air and shop freight
Aircraft and helicopter rentals
Boat charters (environment, surveying)
Building supplies (general)
Car and truck leases
Casing
Catering
Cement and cementing services
Chemicals (for testing - glycol, oxygen, nitrogen)
Communications (radio, telephone, TWX, telecopier, telex)
Courier services
Customs brokers
Deep sea diving (underwater construction, inspection, maintenance)
Directional surveying contracts
Drafting supplies
Drill bits
Drill equipment (miscellaneous - delivery, fittings, etc.)
Drill pipe
Drilling mud
Employment agencies (part-time clerical)
Engineering consultants
Fabrication
Fishing companies (tools for repairing downhole equipment)
Fuels and lubricants
Hotel accommodations
Household appliances
Labour contractors
Logging companies (instrumentation)
Machine shop welding
Marine supplies
Material handling equipment
Office furniture
Office leases
Oil spill containment and recovery services)
Photography
Plumbing
Printing
Safety equipment
Seismic processing
Supply base water
Supply vessels (leased)
Testing equipment
Training
Travel agencies
Trucking
Tubular inspection
Warehousing
Weather forecasting
Wharf and hangar rentals

PRODUCTS - PETRO-CANADA

MAJOR MATERIAL GROUPS

A. Drilling Materials
B. Offshore and Supply Base Equipment
C. Tubular Goods
D. Office Furniture and Supplies
E. Miscellaneous

A. Drilling Materials

Mud Pan	Purchase
Wellheads	Purchase
Rock Bits 6 1/4" to 26"	Purchase
Hole Openers 36" to 42"	Purchase
Drilling Jars 4 3/4" to 8"	Rental
Fishing Equipment overshots and grapples, etc.	Rental
Sub Sea Cementing Heads	Purchase
Stabilizers 6 1/4" to 17 1/2"	Purchase/Rental
Shock Subs 4 3/4" to 9 1/2"	Rental
Float Equipment 7 5/8" to 20"	Purchase
Bit Subs	Rental
Monel Drill Collars 4 3/4" to 9 1/2"	Rental
Drill Water	Purchase
Mud Chemicals	Contract
Underreamers	Purchase/Rental
Cement	Contract
Casing Handling Equipment	Purchase
Casing Dope	Purchase

B. Offshore and Supply Base Equipment

Anchors 15 ton	Purchase
Sutdded Chain 2 1/4" to 3" O.D.	Purchase
Pennant Lines 3" O.D.	Purchase

B. Offshore and Supply Base Equipment (Continued)

Shackles 85 ton	Purchase
Slings 3/4" to 30' - 6/19 wire rope	Purchase
Bridles - 5/8" to 20'	Purchase
Casing Dope	Purchase
Timbers (laying casing)	Purchase
Lumber 2 x 4	Purchase
Miscellaneous Building Supplies	Purchase

C. Tubular Goods

Casing	* 30" x 42	Purchase
	20" x 52	Purchase
	16" 84 lb/ft S-125 BTS Casing	Purchase
	10 3/4" 55.1 lb/ft S-95 VAM Casing	Purchase
	7 5/8" 42.8 lb/ft S-125 VAM Casing	Purchase
Tubing	* 3 1/2" 12.95 # P105 Hydril c/w PH6 connections	Purchase

* (Examples of Tubular goods used in 1982)

D. Office Furniture and Supplies

Calculators	Purchase
Drafting Supplies	"
Forms	"
Furniture	"
Printed Matter	"
Reprographic	"
Stationery	"

E. Miscellaneous

Signs	Purchase
Coveralls	"
Hard Hats	"

E. Miscellaneous (Continued)

Work Gloves	Purchase
Tools	"
Coffee Supplies	"
First Aid Kits	"
Decals	"
Cameras	"
Paint	"
Glycol	"
Deisel Fuel	"
Paint Sticks	"
Coffee Maker	"
Garbage Bags	"
Hand Cleaner	"
Copy Paper	"
Plastic spoons, forks, knives	"
Clocks	"
Telex paper	"
Fire extinguishers	"
Rain Suits	"

PRODUCTS - SHELL

MAJOR CONSUMABLES

Casing Accessories - Float Equipment

Casing/Tubing 2 7/8" to 36"

Cement & Additives

Clips

Diamond Core Bits

Diesel Fuel & Lubricants

Drill Bits 5 7/8" to 17 1/2"

Drilling Mud, Gel, Barite, Various Chemicals

Fittings

Liner (Casing Hanger Equipment)

Lumber

Pipe

Sample Taking Items (Plastic vials, cloth sample bags, sample boxes, core boxes, plastic sleeves)

Shackles

Slings

Valves

Weco Union Connectors

Wellheads

Wire Rope

OTHER EQUIPMENT & SERVICES PURCHASED BY SHELL

Casing Elevator, Tongs
Casing Inspection Services
Cementing Equipment Rental
Centrifuge Rental
Chain Link Fence
Computerized Mud Logging Equipment & Personnel
Coring Equipment, Core Barrels
Crane Rental
Current Metering - Weather Forecasting Equipment
Customs Brokerage
Diving Equipment & Services
Dock & Warehouse Space
Downhole Electric Wire Line Logging & Tools
Drilling Stubs
Drilling Tools, Reamers, Stabilizers, Jars, etc.
Electronic Directional Downhole Survey Equipment
Engineering Studies - Consultants
Environmental Studies
Expediting Services
Fork Lift Rental
Guard Rail
Hanger Rental
Helicopter Services
Marine Riser
Metal Containers
Metal Fabricators & Machining
Microscopes
Office Furniture
Office Space

Pipe Yard Rental
Pressure Recorders
Production Test Equipment, Separator & Tanks
Radio (Communications) Equipment & Personnel
Radiography
Rescue Baskets
Safety Equipment, Fire Extinguishers, Alarms, Masks, First Aid Kits
Stevedoring - Labour
Supply Vessel Charter
Survival Courses
Survival/Immersion Suits
Telex Machine Rentals
Trucking Services
Weather Forecasting
Welding Inspection
Wellsite & Site Specific Surveys

MISCELLANEOUS ITEMS

SHELL

Air & Truck Transportation
Angle Iron - Channel
Band Cutter
Business Cards
Cabinets
Calculators
Cleaning Supplies
Clipping Services
Coffee Supplies
Courier Service
Drafting Services
Easel Flipchart
Electrical Service
Floor Grating
Hand Tools
Keys
Magnetic Cards, Adapter
Measuring Tapes
Metal Shelving & Racking
Newspaper
Office Stationery/Supplies
Oil Spill Dispersent
Overhead Equipment Audio Visual
Paints
Photographic Supplies - Developing
Plastic Bags
Plastic Pails
Postage

Printing Forms, etc.
Rain Suits
Reproduction Services
Rubber Hose, Nozzle, Valves
Small Hand Valves
Telephone Service
Thermalgraphic Paper (Facsimile)
Two-way Radios
Typewriters
Vehicle Rentals
Water Removal
Wooden Palletts

REGIONAL OFFICES - NOVA SCOTIA DEPARTMENT OF DEVELOPMENT

Region & District	Telephone	Location
Cape Breton	439-4768 564-8241	295 Charlotte Street Sydney, N.S. B1P 1C6
Straits	625-3200	Professional Bldg. Church Street Port Hawkesbury, N.S. B0E 2V0
	863-5707	42 West Street Antigonish, N.S. B2G 2H5
Metro/East	424-6767 424-5689 424-5690	5151 George Street P.O. Box 519 Halifax, Nova Scotia B3J 2R7
Northumberland	662-3339	Administration Bldg. Debert Air Industrial Park P.O. Box 100 Debert, N.S. B0M 1G0
	752-1011	Maritime Bldg. Room 504 169-175 Provost Street New Glasgow, N.S. B2H 2P9
	667-3223	40 Anson Avenue Amherst Industrial Park Amherst, N.S. B4H 4H2
South Coast	543-9121	Provincial Bldg. 99 High Street Bridgewater, N.S. B4V 1V8
	742-8404	Provincial Bldg. 10 Starrs Road Yarmouth, N.S. B5A 2T1
Valley	678-3386 678-8456	Annapolis Valley Industrial Mall P.O. Box 524 Kentville, N.S. B4N 3X3
	825-4545	131 Commercial Street P.O. Box 39 Middleton, N.S. B0S 1P0